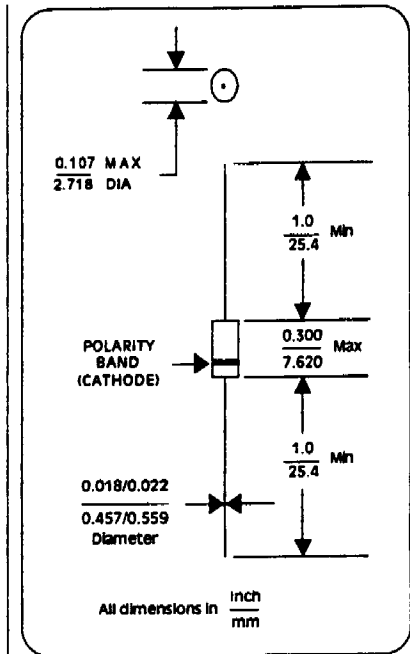


# 1N5139 thru 1N5148A

## ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ unless otherwise specified

| CHARACTERISTICS - ALL TYPES  | TEST CONDITIONS   | Min.            | Typ.           | Max. | Unit                  |
|--|---|-----------------|----------------|------|-----------------------|
| Reverse Breakdown Voltage ( $V_{BR}$ )   | $I_R = 10 \text{ uadc}$   | 65              | 100            | -    | Vdc                   |
| Reverse Voltage Leakage Current ( $I_R$ )  | $V_R = 55 \text{ Vdc}, T_A = 25^\circ\text{C}$<br>$V_R = 55 \text{ Vdc}, T_A = 150^\circ\text{C}$ | -               | 0.0001<br>0.16 | 0.02 | uadc                  |
| Series Inductance ( $L_s$ )  | $f = 250 \text{ MHz}, L = 1/16"$  | -               | 5              | -    | nH                    |
| Case Capacitance ( $C_c$ )   | $f = 1 \text{ MHz}, L = 1/16"$  | -               | 0.25           | -    | pf                    |
| Diode Capacitance ( $C_d$ )<br>Temperature Coefficient                                     | $V_R = 4 \text{ Vdc}, f = 1 \text{ MHz}$  | -               | 200            | 300  | ppm/ $^\circ\text{C}$ |
| Figure of Merit (Q)  | $V_R = 4 \text{ Vdc}, f = 50 \text{ MHz}$   | See Table Below |                |      | -                     |
| Power (P <sub>j</sub> )<br>Derate 2.65 mW/ $^\circ\text{C}$ above $T_A = 25^\circ\text{C}$ |   | -               | -              | 400  | mW                    |
| Operating Temp. Range  |   | -55 to +150     |                |      | $^\circ\text{C}$      |
| Storage Temp. Range  |   | -55 to +200     |                |      | $^\circ\text{C}$      |



### DO-7

### DESIGN DATA

CASE: Hermetically sealed glass case. DO-7 Outline.

LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin Plate

THERMAL RESISTANCE:

250  $^\circ\text{C}/\text{W}$  (Typical) junction to ambient

POLARITY: Diode to be operated with the banded (cathode) end positive with respect to the opposite end

WEIGHT: 0.2 Grams

MOUNTING POSITION: Any

### MAXIMUM RATINGS

OPERATING TEMPERATURE:

-65 TO +175  $^\circ\text{C}$

STORAGE TEMPERATURE

-65 TO +200  $^\circ\text{C}$

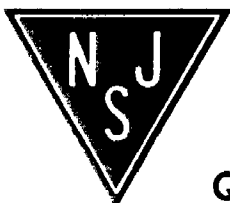
LEAD TEMPERATURE: 1/16 inch from case for 10 seconds - 260  $^\circ\text{C}$

### RATINGS AND CHARACTERISTICS

| ISI PART NUMBER | C <sub>j</sub> CAPACITANCE (Picofarads)<br>$V_R = 4 \text{ VDC}$<br>$f = 1 \text{ MHz}$ |      |      | CAPACITANCE RATIO<br>From $V_R = 4 \text{ VDC}$<br>To $V_R = 60 \text{ VDC}$ |      | Q<br>FIGURE OF MERIT<br>$V_R = 4 \text{ VDC}$<br>$F = 50 \text{ MHz}$ |
|-----------------|---|------|------|--|------|---|
|                 | Nom.  | Min. | Max. | Min.   | Typ. | Min.  |
| 1N5139A         | 6.8   | 6.46 | 7.14 | 2.7  | 2.9  | 350   |
| 1N5140A         | 10  | 9.50 | 10.5 | 2.8  | 3.0  | 300   |
| 1N5141A         | 12  | 11.4 | 12.6 | 2.8  | 3.3  | 300   |
| 1N5142A         | 15  | 14.3 | 15.7 | 2.8  | 3.3  | 250   |
| 1N5143A         | 18  | 17.1 | 18.9 | 2.8  | 3.4  | 250   |
| 1N5144A         | 22  | 20.9 | 23.1 | 3.2  | 3.4  | 200   |
| 1N5145A         | 27  | 25.7 | 28.3 | 3.2  | 3.4  | 200   |
| 1N5146A         | 33  | 31.4 | 34.6 | 3.2  | 3.4  | 200   |
| 1N5147A         | 39  | 37.1 | 40.9 | 3.2  | 3.4  | 200   |
| 1N5148A         | 47  | 44.7 | 49.3 | 3.2  | 3.4  | 200   |

Capacitance Tolerance: A Suffix =  $\pm 5\%$

No Suffix =  $\pm 10\%$



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